

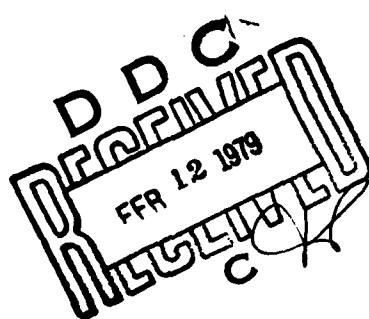
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EXECUTIVE ROTATION
AT THE DAHLGREN LABORATORY

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Executive Rotation at the Dahlgren Laboratory

Two previous studies have reported how management by objectives has been implemented by the Dahlgren Laboratory of the Naval Surface Weapons Center,¹ and how contingencies affect the setting of milestones by objectives.² In the last case it became evident that with very few exceptions the more experienced administrators were usually better able to calculate a finishing time which made allowance for slippages in their schedule. Moreover, the managers who had experienced a variety of rotational assignments were more precise in computing their PERT charts and/or in setting target dates. Since experience is obviously an imposing influence in the setting of milestones and in the performance of related functions, the practice of executive and managerial rotation at the Dahlgren Laboratory was studied to determine its relationship to the effectiveness of decision-making and scheduling activities. This objective was modified, however, as the research for this project progressed because it became apparent that leadership rotations at the Dahlgren Laboratory involve much more than broadening perspectives, improving administrative skills, providing new experiences to prevent stagnation or to stimulate innovation and so on. While these purposes are satisfied by planned mobility in the lower managerial ranks,³ what is different at Dahlgren is that executive⁴ rotations take place within a

¹Philip L. Martin, et al., "Management by Objectives in a Navy R and D Laboratory," 14 Defense Management Journal 45 (1978).

²Philip L. Martin and Lee W. Johnson, Contingency Approximation in Milestone Setting for Navy R and D, Technical Report, Office of Naval Research (1977).

³Lower managerial ranks include division chiefs and branch heads who broadly comprise what is commonly called middle management. The designation of lower managerial ranks also refers to the first level of supervision which consists of group leaders and project managers.

⁴The executive class is composed of the Civil Service "supergrades" who head the technical and support departments, the technical directors and the commanding officers.

unique organizational setting for Navy R and D administration. Before this point can be explained though, it is necessary to establish what is commonly understood to constitute managerial rotation.

Managerial Development by Rotation

The technique of developing administrative talent by rotation among different positions is a relatively new concept in American public administration. While some agencies such as the U. S. Forest Service have formalized this process as the means of moving up the ladder of promotion, most have merely used a pre-planned series of short-term assignments to acquaint new employees with the agency.⁵ Few public organizations have established a systematic policy of job rotation as a method of management training. Yet, recent research has verified the logical assumption that a judicious use of reassignment and rotation will broaden the perspective and qualifications of managers thereby enabling an organization to avoid administrative stagnation and providing it with a pool of experienced individuals who are ready to fill normal vacancies and to meet the needs of organizational expansion.⁶ One authority notes that many practitioners "would argue that planned job rotation may be the single most viable technique for managerial development."⁷ What they mean is that there should be rotation in middle-level positions at the branch and program level within the same department, and then there should be unspecified rotation for the more experienced middle managers, especially division chiefs, who show promise. The latter should receive unplanned rotation from one department to another without any indication of how long the change in assignments will last.⁸ When

⁵See Herbert Kaufman, The Forest Ranger: A Study of Administrative Behavior (Baltimore: John Hopkins Press, 1960).

⁶Gary G. Kaufman, "Managerial Mobility: A Cost Benefit Analysis of Job Rotation," 5 The Bureaucrat 462 (1975).

⁷O. Glann Stahl, Public Personnel Administration, 7th ed. (New York: Harper & Row, 1976), 241.

⁸See Yoram Zeira, "Job Rotation for Management Development," 21 Personnel 28 (1974).

the trainee does not show any promise of growth, he probably will not be rotated any further.

If the aforementioned kinds of rotation are practiced, advocates of this policy contend that the following advantages will be gained:

1). Generalists will be developed. They will acquire a broad, organizational point of view and the ability to handle people and to make decisions in a variety of situations.

2). The new manager who comes into a department often brings new ideas and a fresh point of view. Having no vested interests in the old ways of doing things, he can frequently suggest effective changes and stimulate the unit.

3). Rotation creates organizational flexibility. When there is expansion or the creation of new work, there will be some managers available who have relevant experience.

4). Rotation makes it possible for managers to determine the functional fields they would prefer after they have become familiar with the different responsibilities of the various departments and the interdepartmental relationships.

5). Rotation promotes cooperation among different departments since managers learn about the problems and tasks of each.

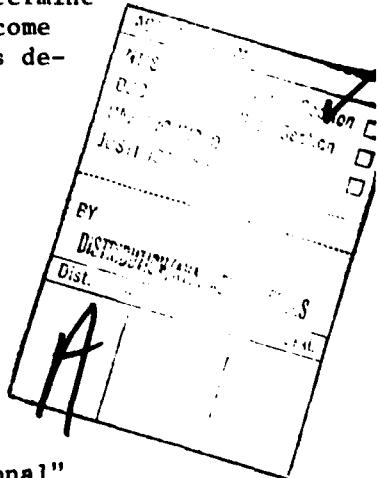
6). Rotation is an effective method for improving the performance of middle managers who are not capable of further promotions. Even if they cannot take more responsible jobs, they can still accept and succeed in new challenges. As a result rotation can be used to eliminate administrative stagnation. In this way the rotated manager and his new subordinates will develop a broadened perspective that will reduce "tunnel vision" and "conventional" managerial practices.⁹

There are, of course, other advantages to managerial rotation, but the ones enumerated above are particularly evident in some form at the Dahlgren Laboratory.

Managerial Rotation at the Dahlgren Laboratory

Studying the rotation of managers at the Dahlgren Laboratory was particularly rewarding because in comparison to other government organizations it

⁹For a more detailed analysis of these points, see Ibid., 28-29.



has a relatively long history of using this approach for personnel development at all levels within the agency. To a large degree, Dahlgren's success in research and development can be attributed to this policy which has attracted not only the interest of other Navy research and development laboratories but also other federal agencies.

In an earlier study of management training at what was formerly named the Naval Weapons Laboratory both interview and questionnaire responses indicated that overall the rotation of administrators was evaluated as a beneficial training practice for any part of the hierarchy.¹⁰ The questionnaire results showed 108 supervisors in favor of rotation and 63 against it with 11 having no opinion. In comparison 67 of the prospective trainees were favorable to the concept, 19 were opposed, and 19 did not express an opinion.¹¹ Although a smaller sample of executives and middle managers was used (n=67), the current survey which consisted solely of in-depth interviews encountered a much stronger reaction. This time an overwhelming majority of the supervisors (92 percent) were in favor of rotational training not only for themselves but for their subordinates who have manifested some managerial potential. In this respect it was pointed out that through assignment among various positions managers become better acquainted with the organizational mission thereby developing a more profound understanding of their role in working toward the goals of the Laboratory and the Center since each move exposes them to a different methodology, a new orientation and a group of professionals who have diverse backgrounds in another area of research. In addition managerial rotation was praised on the grounds that in most cases it stimulates the supervisor who is given such

¹⁰Philip L. Martin, "R and D Management Training," 9 Advisor 1 (1975).

¹¹Philip L. Martin, An Evaluation of Management Training at the Naval Weapons Laboratory (Administrative Publication: Dahlgren, Va., 1974), 19.

a reassignment to test various ideas for feasibility and to find improved ways for carrying out his responsibilities. Moreover, this effect frequently impacts upon subordinates who are likewise motivated to be more creative and innovative in their project work under a new manager. There are, of course, other isolated and individualized advantages derived from managerial rotation at the Dahlgren Laboratory, but rather than list them it will suffice for the purposes of this report to say that all of the "good things" which contribute to the development of administrators are attained by supervisory mobility without causing chaos, less efficiency or reduced morale.

Executive Rotation

In many ways the deliberate intraorganizational movement of top ranking executives can be regarded as the capstone for planned managerial rotation. To begin with, there are basically the same advantages to be gained for individual development and organizational improvement although the impact and implications of moving administrators in the higher echelons have greater meaning for the entire agency. On this score it has been noted that in private enterprise a program of executive mobility is beneficial because:

A company-wide assignment of these jobs also helps each of the executives to gain a company-wide point of view; consequently, their decisions become more effective. Moreover, such rotations present new challenges to the executives, gives them more interests and helps to prevent the formation of departmental cliques.¹²

The same assessment applies generally to the public sector; and for a Navy research and development laboratory such as Dahlgren, a previous study concluded that there are the following additional benefits to be gained from a policy of executive rotation:

¹²Manley Howe Jones, Executive Decision-Making (Homewood, IL: Irvin, 1962), 231.

The ability to keep pace with a very rapidly changing technology that is common in R and D is enhanced by this approach because it gears the organization to change. . . rotation at the top facilitates the application of a mobility concept throughout the organization. This gives the manager an element of flexibility in the disposition and utilization of human resources (which are the key to R & D) that he does not normally have in a more rigid organization. This flexibility is possible because the personal emotional trauma of movement in the ranks is removed when rotation is demonstrated by top management to be a positive thing.¹³

In Navy R and D work it was also found that "another major benefit of such a program is the stimulation and revitalization effect on both the executive and the organization."¹⁴

The findings of this study not only confirmed and elucidated the aforementioned points but it also discovered some other attributes which especially enhance organizational efficacy. While they are not ranked according to importance or significance, a logical ordering of the major advantages is used.

1). Organizational Memory.

One of the major payoffs received from a policy of rotation is that department heads are exposed to the current operations along with the experience and history of all the technical work performed at the Dahlgren Laboratory thus laying the groundwork for establishing and perpetuating a record of what has taken place in the past.¹⁵ In order for this result to be appreciated it must be stressed that the reference to "record" does not mean a factual, storybook recall of yesteryear's events for the sake of glorifying the past nor does it include an officially documented history in the manner of the public relations

¹³James E. Colvard, Executive Rotation as a Means of Managerial Development (Unpublished M.A. thesis, University of Oklahoma, 1972), 10.

¹⁴Ibid., 11.

¹⁵At this point it must be explained that Dahlgren's executive rotation applies mostly to the technical departments because Naval officers are specifically assigned to head the public work and supply areas and because position classification requirements make it difficult to rotate the heads of the Finance and Personnel Departments.

pieces which frequently are designed to impress important people such as legislators. To the contrary, "record" as used in this sense refers not only to an individual's performance but also to his awareness, consciousness and recollection of former agency existence and previous project experience. The combination of these factors constitutes an executive's administrative memory from which guidelines in terms of feasibility and impracticability can be extrapolated for different decisional situations. If a person's career has been confined to a single department, his administrative memory is, of course, limited to these surroundings. On the other hand his administrative memory is enlarged and enriched by service in other departments, laboratories and so on. No matter how many sources are involved the administrative memory of an individual becomes a data base that is composed of his interpretations, perceptions and reactions, all of which, naturally, are qualified by the range of his analytical abilities. Nevertheless, a very useful decision-making tool has been developed because, not surprisingly, the more an executive learns about the limitations and pitfalls involved in various R and D situations the better equipped he is to avoid many mistakes. Or, or put it another way, the executive is in a better position to make the best perceivable decision. Regardless of the viewpoint taken, rotation contributes to the selection of many alternatives which are vital to the success of Navy research and development. For example, it is essential that professional employees have ample freedom of action to explore their ideas, and in this respect an executive's administrative memory provides the basis for establishing the parameters within which he will effectively delegate the right amount of authority. That is, enough latitude will be granted to permit experimentation but at the same time sufficient control will be retained to keep the situation from getting out of hand.

After a series of different assignments have been completed, an administrator's memory acquires a broader organizational orientation; and since it

consists of knowledge which is intersubjectively transmissible, an executive will, through contact and group decision-making with his colleagues, become more cognizant of how his personal administrative memory can serve the enterprise. In addition the Dahlgren Laboratory has maximized the opportunity for collegial interaction with its corporate concept of organization (to be discussed later) and has, therefore, achieved a higher level of organizational consciousness than would result from merely following a standard approach to executive rotation. This attainment, unusual for most public agencies, has come about because Dahlgren's corporate concept of organization has operationalized the cognitive process by which individual administrative memories are formed. As a result of combining executive rotation with the corporate concept a system has been established for assimilating all of the individual personal memories thereby creating an encompassing organizational memory, i.e., the sum of the discrete parts from the past and from the present. In this arrangement every executive will at some time contribute to the organizational memory which will be continuously formalized, refined, and shaped, on a collective and an individual basis by all participants in the corporate structure. Although the genealogy of the Dahlgren Laboratory during the period that executive rotation and the corporate model have been in effect comprises several generations of administrators, the essence of their cognitive input remains as part of the total awareness manifested by the current upper managerial echelon, but an identification of who made a particular contribution gradually fades. Even so, the organizational memory continues to have an imposing influence on the setting of boundaries for fulfilling the R and D mission.¹⁶

¹⁶This discussion is not to be misinterpreted as meaning that the organizational memory leads to routinized procedures, discourages innovation, stifles creativity and so forth. To the contrary, it is a decision-making tool which helps to prevent (not eliminate completely) mistakes by denoting what has been done in the past and what problems should be anticipated in the future.

For the organization as a whole there is a psychological impact made by the organizational memory at Dahlgren where its long record of impressive success instills a positive attitude in the work force, particularly among the professionals. For example, the first successful testing of a radio-controlled airplane took place at Dahlgren as did the original tests of the famed Norden bombsight.¹⁷ Even though none of the personnel involved in these projects are still actively on the scene, the above cases constitute an imposing factor in building the confidence and the high morale which has characterized the later generations of professionals at Dahlgren. They are proud to be associated with an organization which counts the aforementioned triumphs among its achievements, and as a consequence they are not afraid of experimentation which, of course, is vital to the functioning of a research and development facility. Executive rotation serves to intensify this psychological impact as it communicates the former and present success of less publicized projects among the departments of the laboratory thus augmenting the effect generated by those of the past which have greater reputation.

2). Organizational Direction.

The policy and practice of top management mobility also provides a second advantage which is closely interrelated with organizational memory. After serving as head of several departments, Dahlgren's executives almost unanimously comprehend their overall mission for serving the Fleet, and they have gained an insight into how each component of the laboratory contributes to achieving the major goals. Obviously, this understanding is extremely important to the functioning of any organization, but it is especially crucial in military research and development which most of the time operates

¹⁷See Kenneth G. McCollum, ed., Dahlgren (Dahlgren, Virginia: 1977), 30.

with a free floating frame of reference. While this kind of environment will stimulate creativity and innovation, it does run the risk of deviation from established objectives. Therefore, unless some precautionary measure is employed, considerable time and effort can be expended trying to prevent problems such as a project drifting off course or the state of workshop isolation which can occur when scientists are testing new concepts and hypotheses on the frontiers of knowledge. The experience of R and D laboratories in particular has indicated how a theoretical challenge can be distracting to the degree that a preoccupation with science as an academic pursuit leads to a total loss of intellectual contact with the original objective and may even degenerate into a case of stagnation as no real progress is made toward the completion of a project.

How do managers in charge of an experimental setting regulate activities so that everyone's attention is concentrated on the target? The most widely accepted methods set forth in the annals of public administration are:

1). By organization [which means] interrelating the subdivisions of work by allotting them to men who are placed in a structure of authority, so that the work may be co-ordinated by orders of superiors to subordinates, reaching from the top to the bottom of the entire enterprise.

2). By the dominance of an idea [which means] the development of intelligent singleness of purpose in the minds and wills of those who are working together as a group, so that each worker will of his own accord fit his task into the whole with skill and enthusiasm.¹⁸

These primary ways to maintain control and coordination in a public agency are not mutually exclusive, and it has been noted that "no enterprise is really effective without the extensive utilization of both."¹⁹ However, at Dahlgren

¹⁸Luther Gulick, "Notes on the Theory of Organization," Luther Gulick and L. Urwick, eds., Papers on the Science of Administration (New York: Columbia University, Institute of Public Administration, 1937), 23.

¹⁹Ibid.

the sense of direction (the idea) engendered by executive rotation dominates the Laboratory's structure which in reality becomes necessary mainly because of Civil Service requirements to designate formally who are the managers at the various levels of responsibility within a federal government agency.

Executive rotation at Dahlgren has not completely eliminated variances from an established course of action, but by delineating the direction of the organization for top management, it has limited their occurrence while minimizing their impact on milestone progression. Following through on what has already been said for the overall dominance of an idea, several subcategories of variables have helped to implement this result. First, the interaction among department heads checks many unintentional tendencies to stray afield before matters get out of hand. If some part or all of a department begins to lose sight of the organizational mission and objectives, this fact is usually discerned rather quickly by the other executives, especially those who once were in charge of these operations. In other words executives who have moved on to new duties still act unofficially as monitors for the ongoing projects which were formerly under their command and are of a continuing interest albeit from a distance. They are aided in this respect by a second factor arising from the vertical relationships which exist in the hierarchy. By rotating among the departments the administrator's knowledge of organizational direction permeates the lower management levels through his association inside a department with its division chiefs, branch heads and project leaders. After serving under several department heads, these managers develop a rather balanced, impartial view of where the organization as a whole is headed. This understanding not only enables the subordinate supervisors of a department to keep their work in step with the direction of the Laboratory but they also possess a broadly perceived organizational standard for ascertaining the position of another unit with which they may have fairly frequent contact in relation to the total effort

for achieving the prescribed ends. Whenever a deviation is discovered elsewhere, an informal report is usually sent up the departmental chain of command to the head who then calls the matter to the attention of his colleague.

There are, naturally enough, exceptions to the above processes inasmuch as some divisional components at Dahlgren have little contact with the rest of the Laboratory because of the nature of their job which may be highly specialized or restricted for security purposes or similar reasons. Yet, this study found that a sense of organizational direction does exist and that it has both horizontal and vertical impacts in the Dahlgren Laboratory. Its force is unquestionably stronger at the top where policy decisions are made, but as a result of executive rotation there is a pervasive effect which makes the sense of organizational direction a very efficacious control mechanism that replaces the need for a lot of directives, manuals and emphasis on structure.

3). Organizational Interfaces.

As a consequence of heading diverse technical departments Dahlgren's executives have been able on numerous occasions to achieve productive interfaces among different projects. Crossing departmental boundaries in order to accomplish more coordination in work is in itself unique since organizational jurisdictions are generally considered very sacred in public administration where there is no unifying force or inducement to pull together such as the profit motive in private enterprise. Many agencies, federal, state and local, suffer a loss of morale and productivity due to the disruption caused in their normal activities by protective managers who squabble over what are frequently no more than self-asserted prerogatives. This complication is virtually nonexistent at the Dahlgren Laboratory where familiarity with the objectives of other departments encourages a coordination of effort whenever it is possible.

In explaining this willingness to cooperate one interviewee said that "being in the other fellow's shoes impresses upon you what his problems are and what kind of help from the other departments would be mutually beneficial." Another interviewee suggested in a somewhat facetious vein that the "department heads work to help one another because they are afraid that if they screw one of the group, any one of them may end up heading that particular department in the future, and no one wants his next assignment to be as the head of the weakest department. That is a no win situation which can be easily avoided by all of the Department Heads working together." Even though there is undoubtedly more than a grain of truth in the preceding assessment, the primary reason why executive rotation engenders a high degree of inter-departmental cooperation at Dahlgren is found in the following response concerning a specific example: "I didn't mind helping that department in this case because there are a great bunch of guys working on that project, and when I was their head, they 'busted their butts' for me so I felt that I owed them something." Likewise, the Division Chief and branch heads involved in this particular instance were not only grateful for their former department head's assistance but they indicated a desire to return the favor in the future. The kind of positive attitude toward cooperation and reciprocity manifested by this case was found in a number of project histories.

On the basis of the second set of interview responses, which were typical of many received across the technical departments, organizational interfaces are as much the product of the personal contact made possible by executive rotation as they are of the increased knowledge of the work being performed by the Laboratory. Combining these factors leads to the conclusion that the single most important reason behind the organizational interfaces is that the

department heads develop an empathy for the problems confronting the professionals who have been under their command. Admittedly, the other side of the coin was evident in a few instances as antipathetic feelings were the end result of the interpersonal relations encountered by the mobility policy, but overall the parties involved in each rotation had a positive interaction which clearly encouraged future cooperation.

4). Organizational Assessment of Human Resources.

One of the factors contributing to the aforementioned interfaces is the knowledge that rotated executives gain about the ability of the employees and professionals who are assigned to the different departments. Having this insight makes it possible to engage in better team building for project management by grouping individuals so that their aptitudes, experiences and talents are complementary. This means, of course, that personnel may be reassigned among the departments when an interface is formed, but any initial disruption and inconvenience caused by the breaking of routines is offset by the increases which are made in productivity as the transferred employees find greater satisfaction in performing challenging work that is in line with their skills. On this last point one interviewee stressed the importance of getting the "right mix of people in a project." By this emphasis he meant combining individuals who are personally compatible as well as complementary in their abilities, and clearly, executive rotation provides the basis for making this kind of personnel decision. Managerial mobility offers an alternative though to achieve a better utilization of professional talent when transfers are not feasible nor possible. After a few turns in the system, department heads know where various capabilities are located in the Laboratory thereby facilitating the obtaining of advice and assistance in solving problems and in bringing the best available expertise to bear on trouble spots in a project.

In addition to the preceding advantages the past and present organizational assessment of human resources lays a foundation for meeting future personnel needs. During this study, it was discerned that certain middle managers and professionals were being selected for tasks which would expose them to technologies different from the fields in which they are already proficient. Obviously, these carefully chosen participants are being prepared in anticipation of what lies over the horizon in Navy research and development with a concern being shown for the demands that tomorrow will make on the Dahlgren Laboratory. Since modern weapon systems are increasingly incorporating both hardware and software components, a number of individuals were noticeably being readied for future programs involving expertise on both sides of the technical spectrum. To make this kind of personnel decision in a way that is effective for both the organization and the individual, an administrator must have a knowledge of what scientific advances are being made. Moreover, he must interpret how they will impact not only on the entire laboratory but on each component therein; and this information is most useful when supplemented by a first hand evaluation of the capability and potential of each professional employee. Executive rotation, more than any other method, produces this kind of decisional input by keeping the department heads in touch with the latest developments in all fields and by introducing them to the personnel in a variety of technical settings.

In this regard two examples stand out. First, one department head realized, after a tour of duty on the circuit, that certain software specialists could do a better job if they knew some fundamentals of engineering. Therefore, he arranged through the training officer for a university taught noncredit short course which was very successful. Second, another executive who had become more aware of the progress in minicomputer technology in his most recent post moved into a department where it immediately became apparent to him that some

expertise in this field would be a necessity in the near future. Consequently, he and the training officer made plans for special classes almost one year before they were to begin, and they scheduled the training sessions to coincide with the expected demands on the different project groups. In neither of the preceding cases would the need for specialized training have been so quickly pinpointed without the benefit of rotation.

Overall, mobility in the executive ranks facilitates making many personnel decisions regarding career development, promotions, salary increases, training, etc., because the administrator learns a great deal about the limitations and strengths of individual employees and their performance under the demands of different work situations. After heading several departments, the executive amasses a substantial amount of job related data which forms the benchmarks for making balanced, objective personnel decisions. In the same manner a comparative organizational analysis of human resources has the advantage of establishing a criterion for making a realistic commitment to a project. This last point is crucial inasmuch as the department head on one hand must be in a defensible position to check the zealous division chief who has an overconfident "can do anything" attitude which shields him from a realistic appraisal of subordinates capabilities. On the other hand a department head should rely on concrete evidence in urging a hesitant manager to get involved in projects which can be handled by his unit. By knowing the ability and potential of the people who work for the Laboratory an administrator can satisfy the aforementioned requirements in running a department. After all, it is "blokes, not blocks" who get the job done.

5). Organizational Transfer of Technology.

One of the major contemporary concerns of the scientific community is how to accomplish technology transfer, but most formal discussions on this subject

deal exclusively with problems of an international scope such as aiding under-developed countries to increase their industrialization. However, the matter of transferring technical knowledge involves more than schemes of great magnitude. In fact it is of interest at various organizational levels ranging from international forums on modernization to the mesoscale where research and development laboratories, the same as Dahlgren, have an internal need for disseminating among their components the latest scientific advances. This point, of course, was illustrated in the preceding section by the examples of the engineering fundamentals and minicomputer special courses, but it deserves separate treatment as an advantage of executive rotation.

Along the same lines as scheduling classes for formal training an exchange of technical information can be attained through closed or open²⁰ in-house presentations explaining scientific advancements,²¹ arranged consultations among laboratory personnel,²² planned programs on the order of symposia, guest lecturers from other R and D organizations including universities, distribution of technical publications²¹ and so forth. Needless to say, the arrangement and selection of the most effective means for accomplishing a transfer of technology is a significant benefit of executive rotation. When a department head moves

²⁰The security classification of the material presented will determine the nature of the audience.

²¹In the Naval Surface Weapons Center as a whole there were 30 patents and 63 invention disclosures issued in 1978. There is no breakdown for the Dahlgren and White Oak Laboratories since collaboration was involved in some cases.

²²These activities can concern instruction in what some employees have learned from external sources about recent developments such as a new kind of microprocessor or a new type of valve, or they may involve the giving of advice as to how something can be done.

²³NSWC published 335 technical reports in 1978.

into a new position, technical deficiencies or the need to "beef-up" technological "know-how" usually become more apparent because of his other experiences on station and in many instances these can be overcome by techniques used on a former assignment. There may also be a maximum pay-off in terms of a cost/benefit ratio in planning the methods of transferral inasmuch as previous rotations will have exposed the executive to a larger number of professionals who can profit from participating in these sessions. Thus, managing the enterprise becomes more efficient which is another justification for executive rotation. The validity of this point was emphasized in his 1978 end of the year summary by the commanding officer of NSWC, CAPT. Paul L. Anderson, U.S.N., who said:

Continued participation in technical and scientific fields reflects well upon the Center. And it demonstrates the healthy exchange of information that is vital to the professional growth of Center employees.

In this connection, I should mention that the Center received the highest award of the Government/Industry Data Exchange Program. This means we had better utilization of GIDEP resources than any other government activity --including all DOD, DOE, HEW, or NASA.

6). Organizational Change Agent.

Although technical changes are accepted in the spirit of progress especially since they are usually demonstrable and provable, a change in organizational management is almost always resisted because it involves personal values which are frequently intertwined with an emotional attachment to the old way of doing business. The consequence of any organization successfully rejecting changes in management procedures will probably be a gradual reduction in the quality of its output and a stagnation in its mental processes along with a decline in innovation. Unfortunately, these shortcomings are too frequently encountered in the realm of public administration where the absence of a profit motive does not stimulate change as is the case of private enterprise whose survival is dependent upon keeping on its toes. Even a Navy research and development

laboratory which operates under the national industrial funding concept²⁴ has to deal with the reluctance to rearrange the hierarchical patterns and to alter the established ways of running them. That this phenomenon occurs in American governmental R and D should not be surprising because any organization which, in carrying out its functions, must adhere closely to a superabundance of formal rules and regulations will find it difficult to avoid getting in a rut no matter what is the nature of its work. Despite its desirability, democracy's demand for control over bureaucracy does have a hidden cost in the inflexibility arising from the imposition of personnel ceilings and position management stipulations and from the preclusion of matrix and other modern organizational theories by the Civil Service requirement that managers must be permanently designated on an official position classification chart.

How can agencies overcome the natural tendency toward continuing on the same administrative path? Over the years a number of techniques have been used to "shake up" an organization including the use of private consultants, reorganization, sensitivity training, interunit committees, ad hoc study committees, advanced planning, "touchy-feely, let your hair down" sessions, and the shifting of employees at all levels of the personnel ladder. These alternatives can, and have, produced varying degrees of success but not without causing extra expense, conflict and unnecessary disruptions in normal routines.

²⁴Succinctly, this policy means that Congress appropriates money to the various Naval systems commands to which the R and D laboratories submit proposals for developing weapons. The Commands approve projects by funding them under a commercial-type budget which facilitates maintaining fiscal control and measuring financial responsibility.

Interviews conducted at Dahlgren for this study indicated that by rotating department heads a change agent is injected into the system without encountering the disadvantages of the standard methods. In this respect it was pointed out that whereas a new chief does not generally alter a department's goals and objectives, even if the possibility exists, the way of looking at them will usually change because of the diverse technical backgrounds, experiences and perspectives brought by an executive to his new assignment. The respondents also believed rotation had an important impact in that the division chiefs, and in turn their branch heads, will re-examine their way of managing since each new department executive has a different philosophy of budgeting, delegation of authority, etc. In the opinion of some interviewees gaining a new perception of how a goal might be reached or how a different managerial approach could be used in completing an objective was the most important result of executive mobility. Thus, it was asserted that the introspection, which seems to be a normal hierarchical reaction to rotation at the top, improves performance in the entire Laboratory as well as in the individual departments. Furthermore, by serving as a change agent mobility at the top lessens the need to seek the same impact on a department by frequent rotation of the managers in the division and branch echelons thereby maintaining a high level of expertise close to the work groups where it is most needed. This means that technical advice and supervision can be readily used to assist and direct projects contrary to a widely held criticism that the oversight of work suffers from a lack of continuous leadership by a specialist in the field when department heads are periodically reassigned. None of this to say though that Dahlgren does not rotate lower line managers but rather it accentuates the fact that executive mobility makes it unnecessary to use them as change agents. Their

movement, therefore, can be planned as a method of career development in precisely the manner pursued by the Dahlgren Laboratory.

7). The Management of Organizational Crisis.

During this study, it became apparent that a degree of protection against many contingencies, which can be loosely termed as organizational crises, is derived from executive rotation. Clearly, this advantage is seldom, if at all, one which can be planned because it is almost impossible to anticipate all of the things that can go wrong over a stretch of time. For example, how many agencies can reasonably predict that a young executive under forty years of age is going to die prematurely? Or, is it realistic to think that an organization can schedule the development of administrators in preparation for a consolidation with another bureau when history shows that decisions to reorganize are made with very little advance warning? Not even Dahlgren with its positive experience can claim that executive rotations have been designed to deal with these kinds of personnel crises. Yet, when they did occur, along with others not listed here, there was no problem in finding a satisfactory solution.

In the first case mentioned a bright, young department head was killed in a hunting accident. He headed a department engaged in some very crucial programs which could not afford to be delayed by a leadership transition, but nothing of this sort happened because his replacement, who at the time was the assistant department head, had been prepared for greater responsibility by serving elsewhere in the Laboratory as an acting head of technical departments and as the executive in charge of the Personnel Department for one year. Consequently, business continued as usual.

In a similar vein another episode concerned a newly created department whose chief had to be reassigned at the request of sponsors who needed his expertise on a different, more urgent project. His successor was able to

pick up the operation without any loss of momentum on the basis of having served as head of several related departments.

A third category of contingency is the example referred to above for consolidation. Although it had been rumored that Dahlgren might be combined with the Naval Ordnance Laboratory, this was not the reason why the technical director chose the comptroller to serve a rotational term as the associate technical director. This decision, which was unusual since it involved the administrator in charge of a support function assuming the duties of a technical nature, turned out, however, to be a tremendous windfall when the reorganization became a reality. As a result of his contact with the monetary aspects of scientific problems at a high level the comptroller was better able to handle the challenges presented by joining both financial departments in the newly established Naval Surface Weapons Center.

It would be impressive to claim that the preceding cases were successful because of deliberately planned rotations, but no one at Dahlgren would be so presumptuous. The truth of the matter is that the rotational assignments were not made on the basis of anticipating any crises. Nevertheless, executive mobility made a successful resolution of the aforementioned contingencies possible. Hence, in a system emphasizing top management rotation there is an inherent advantage which, perhaps, should be classified as a bonus.

8). Conclusion.

The list of advantages found in executive mobility could be more extensive, but most of the others would merely be an elaboration of ones referred to in the earlier discussions or they are so obvious as to require no further elucidation. On this score it is not necessary to spell out the benefits of executive revitalization, the development of organizational cohesion, the enhancement of

overall decision-making abilities as well as the growth in capacity to deal particularly with different situations, different people and, in the case of a Navy R and D laboratory, different sponsors. What is important to understand though is that all of the advantages explained in this report, with the concomitant increase in organizational efficiency, can be achieved by practically any governmental agency practicing executive rotation, regardless of how it is structured. By the same token it is also possible to maximize the effectiveness of executive rotation by using a special kind of organization. It is this previously mentioned point which makes Dahlgren different from other agencies because the Laboratory has developed an organizational concept that is unique in American public administration.

The Organizational Setting

An analysis of how executive rotation correlates with organizational theory at the Dahlgren Laboratory can be better appreciated by taking into consideration how this organization has evolved. Founded in 1918 as a testing and proving ground, Dahlgren served in this capacity until 1958 when its mission was changed to that of a comprehensive R and D laboratory. This conversion in operations meant that the basic orientation was redirected toward developing weaponry and providing support for strategic systems in Naval warfare.²⁵ As a consequence of its new functions the personnel strength of the Naval Weapons Laboratory increased to approximately 2,600 employees including slightly over 1,000 professionals. In 1974 NWL was combined with the Naval Ordnance Laboratory into the Naval Surface Weapons Center, but executive rotation was continued, especially at the Dahlgren location.

²⁵In brief, the functions at Dahlgren encompass quite diverse tasks such as maintaining test and evaluation facilities, manufacturing weapon system prototypes for large-scale production, providing computational services, and fostering research and development capability.

A. The Corporate Concept

When Dahlgren became a research and development laboratory in 1958, it was composed of three technical departments which were in essence three semi-autonomous laboratories. This arrangement, of course, limited control over the total operation. Following the reorganization, Dahlgren, in a manner roughly similar to other Navy R and D laboratories, had used the directorate form of organization in which the heads of technical departments and the technical director met as a board at least once a week under the chairmanship of the Commanding Officer. Although this group was responsible for setting policy and making decisions on matters affecting the entire organization, it had been bothered by frequent jurisdictional conflicts as each department head protected his interests, sometimes to the detriment of the entire Laboratory. As a result a plan was devised to integrate the three technical departments into a more cohesive decisional body.

This effort actually was suggested by a junior professional development program which had been initiated several years earlier. Under this approach all beginning professionals went through a number of rotational assignments in order to acquaint them with the work of the Laboratory. After completing these tours of duty, it was noticeable that the junior professionals had acquired a broad understanding of organizational objectives. Consequently, the idea of rotation was introduced in the executive ranks in 1968.

By changing the attitude of the department heads, the mobility policy also caused a shift of emphasis in the decision-making of top management. This effect has been described by an earlier study as follows:

In practical application the executive rotation program does broaden the point of view of the department heads. For example, when the department heads meet as a corporate board of directors the attitude of individual department heads, in considering functions before the board such as personnel, space or program actions, is non-parochial. This is due, not so much to the benevolence and altruism

of the board members but rather it is related to the fact that if an individual member builds an empire around his present assignment he will lose it on his next rotation and is likely to inherit the area he has robbed to build his empire.²⁶

Once it became an established practice, the functioning of the board of directors gradually evolved into a cooperative body in which each member is able to draw upon the experience, expertise and knowledge of his colleagues. It is in this respect that advantages such as the previously discussed corporate memory take on greater significance because the pool of talent already embellished by rotation is further enriched by the collegial interaction of the board members. Department heads have come and gone in the Laboratory, but the board of directors continues as a collective decision-making group with each member giving and receiving in his relationship with the others. This reciprocal association is the crux of making the corporate concept work since the emphasis is placed on what each individual can offer the entity rather than on quantitative distinctions such as rank which in this system become less important when decisions are made. This is not to say that rank is completely disregarded because obviously it also carries responsibility for what is or is not done, but the point is that rank is not used to override the consensus reached through the deliberations of the board.

In addition to creating certain administrative advantages the corporate concept of organization, which will be discussed in more detail in a future publication, adds a dimension to executive rotation in that it establishes the framework for a cumulative effect as the experience of each executive impinges upon the entire board. Thus, the impact of mobility is intensified and magnified many times more than if rotation consisted of merely individualized cases. As a result the decision-making of the organization is institutionalized to such a high degree that it becomes the single most important factor in the scheme of things with the persons serving as executives being participants in

²⁶Colvard, op cit., 9.

the process. Successive generations of board members will be able to modify it to fit their particular needs, but the reinforcement of the decisional process by the advantages, especially the corporate memory, derived from executive rotation will continue to be the driving force of the Laboratory as long as the mobility policy stays in effect.

Conclusion

Since there are many facets to Dahlgren's policy of periodically rotating its department heads, this study concludes on the note that such a practice cannot be planned by personnel specialists but that instead it must be determined by the chief administrator's perception of organizational needs. In other words executives are reassigned to meet and to satisfy other organizational demands while at the same time personal development is achieved. Moreover, the success of executive mobility depends upon not overdoing it and not using it as a panacea for every organizational ailment. Likewise, it should not be done merely for the purpose of shifting personnel now and then because there should always be a justifiable, underlying reason that legitimizes the rotation thereby gaining acceptance from the participants and all employees responsible to them. If these prerequisites are not observed, then executive rotation will not be as meaningful as it has been at the Dahlgren Laboratory, but it will most likely be defeated by any number of disadvantages which have only been alluded to in this report since they were not found to exist on any verifiable scale by this research.

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